

ORIGINAL ARTICLE

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## AZ EXPORT-DIVERZIFIKÁCIÓ EGY LEHETSÉGES MÓDJA A POSSIBLE WAY OF EXPORT DIVERSIFICATION

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### ÖSSZEFOGLALÁS

A közeledő Európai Unió csatlakozás előtt (és azzal együtt) a magyar agrárgazdaságnak várhatóan jelentős változásokon kell átmennie. A termelési szerkezetnek alkalmazkodnia kell az Európai Unió követelményeihez és mindezek mellett meg kellene őriznie a magyar mezőgazdaság világpiaci versenyképességét is. Az új szerkezetben nagyobb figyelmet kellene fordítani a komparatív előnyeinket jól kihasználó, jó piaci lehetőségekkel bíró speciális termékekre (aprócikkek) is. Az ide tartozó termékek a kistermelés keretei között is gazdaságosan állíthatók elő, kereskedelmük korlátozásokkal nem vagy csak kevésbé sújtott, piacuk pedig sok esetben szinte korlátlan. A cikk egy ilyen speciális termékkel, a gombával foglalkozik. A gombatermesztés az elmúlt évtizedben hazánkban jelentős fejlődésnek indult, a termelés négyszeresére, az export pedig ötszörösére növekedett. A konkurens versenytársakkal szemben – a gombatermesztés magas élőmunka igénye miatt - az alacsony munkabérek jelentős előnyt jelentenek. Amennyiben sikerül a megfelelő háttérrel biztosítani (szaktanácsadás, kedvezményes kölcsönök stb. ), akkor a gombatermesztés a jövőben a magyar mezőgazdaság egyik legjövedelmezőbb ágazata lehet.

**KULCSSZAVAK:** export-diverzifikáció, speciális termék, gombatermesztés

### ABSTRACT

The structure of the Hungarian agriculture should be changed before the EU accession. The new structure should fill the requirements of the EU and beside this it should produce competitive products. Unconventional products (mushroom, fish, honey etc.) have a lot of advantages: they can be produced in small farms, their trade is mainly free of regulations and their market is almost unlimited. This paper deals with one of these alternative agricultural enterprises, namely mushroom production. The Hungarian mushroom production – in spite of difficulties – has witnessed a remarkable expansion: it increased its production fourfold and its export fivefold in less than ten years. The low level of wages gives a significant advantage to Hungary against its competitors. If we could secure the appropriate background (technical advice, bank loans, etc.) the mushroom industry would become one of the most profitable sector of the Hungarian agriculture.

**KEYWORDS:** export diversification, alternative product, mushroom

## **A POSSIBLE WAY OF EXPORT DIVERSIFICATION**

### **DETAILED ABSTRACT**

The structure of the Hungarian agriculture should be changed before the EU accession. The new structure should fill the requirements of the EU and beside this it should produce competitive products. Conventional products are expected to keep their importance in the future in our agricultural export, but beside them we should pay greater attention to the unconventional (alternative) agricultural products. Unconventional products (mushroom, fish, honey etc.) have a lot of advantages: they can be produced in small farms, their trade is mainly free of regulations and their market is almost unlimited. But they also have disadvantages, which could result in a significant increase of expenses. It is questionable, whether the increase of incomes following the diversification of agricultural export is in level with the increase of costs. For answering this question we should examine which products could be taken into consideration. It is also necessary to become acquainted with their present role in the Hungarian agricultural export and their marketing and production situation.

This paper deals with only one of the unconventional agricultural enterprises, namely mushroom production. This product was selected, because it could play an important role in the Hungarian agriculture in the future.

The Hungarian mushroom production – similarly to the whole Hungarian agriculture – experienced significant changes in its ownership and production structure in the last decade. But – in spite of difficulties – this sector has witnessed a remarkable expansion: it increased its production fourfold in less than ten years (Figure 1.). In 2000 we produced 38000 tons of mushroom. This large-scale development is mainly owing to the good marketing possibilities and the significant investments made in the raw material production. The 65 per cent of the total Hungarian mushroom production are grown in plastic bags in cellars and former mineshafts, but in the latter times special mushroom growing houses become more and more popular.

The revenue from the export of fresh and processed mushroom also shows an upward tendency: in 1999 the income was 30 million USD, which means a growth of five times in order of magnitude compared to the income in 1991. Our main market is the European Union and within it Austria and Germany (Figure 2.). The incomes from these two countries constitute the majority (almost 90%) of the whole returns from the Hungarian mushroom export.

The main competitors on the markets of the European Union are Holland, Ireland and - from among the former communist countries - Poland.

Since the mushroom production has a high labour requirement, the cost of hired labour greatly determines the margin. In Ireland these cost constitute 40% of the total costs (See Table 1.). This rate in Hungary only 25%, due to the low wage-level. If we could reach similar high prices as the Irish mushroom growers, the margins would raise significantly.

The good tendency of development of mushroom industry could continue after the EU accession of Hungary, but – according to the Irish experiences - the future EU grant aid is not enough for the developing of mushroom industry. There are several other important things to do.

For example there is a strong need for developing a modern advisor system to give mushroom growers all the important information. It is also necessary to offer the mushroom growers long term bank loans with better conditions to develop their activities.

**KEYWORDS:** export diversification, alternative product, mushroom

## INTRODUCTION

Before the accession to the European Union (and together with it) the Hungarian agriculture should undergo considerable changes. The new structure should fulfill the requirements of the European Union and beside this it should reserve the international competitiveness of the Hungarian agriculture.

Our present export is based on conventional, mass-produced products (pork meat, wheat etc.). The international trade of these products is overruled, full of restrictions and strongly subsidized. Conventional products are expected to keep their importance in the future in our agricultural export, but beside them we should pay greater attention to the unconventional (alternative) agricultural products. Special products are capable to utilize our comparative advantages and have good market potential, because these commodities could replace current imports or could open up new export opportunities or indigenous markets.

Alternative products could be produced economically even in small-scale farms, their international trade is mainly free of regulations and their market is almost unlimited in many instances. The diversification of agricultural export could balance the unfavorable economical influence owing to the fluctuation of the world market price of mass produced agricultural products. Thanks to the diversified structure the income from agricultural export could be more steady and calculable. The increasing quantity of exported alternative products will positively influence the income and the financial security of the farmers producing these products.

Beside the advantages diversification has also disadvantages. Since in this case we can talk about various products and small volumes, it is necessary to initiate more organization in the marketing of alternative products. Due to the varied nature of different products we need more animal- and plant-health certificate, new distribution system. The recording of the trade of such products will be more complicated because of the heterogeneity and the small quantities. To keep under control the production and the export of special products could necessitate reorganizing the related governmental regulation and support system. These facts could result in a significant increase of expenses, so it is questionable, whether the increase of incomes

following the diversification of agricultural export is in level with the increase of costs. For answering this question we should examine which products could be taken into consideration. It is also necessary to become acquainted with their present role in the Hungarian agricultural export and their marketing and production situation.

## MATERIALS AND METHODS

This paper is mainly based on the data collected from the national statistical (KSH – Central Statistical Office) or lobby organizations (OZT – Hungarian Fruit and Vegetable Board) in Hungary. Production data concerning Irish mushroom production was collected from TEAGASC, the official Irish institution of agricultural extension. Additional information was gathered from both Hungarian and Irish mushroom producers and spawn suppliers by personal interviews and questionnaires.

The information was used to build a computerized database. For this purpose MS Excel 5.0 was used. The statistical analysis and mathematical calculations were carried out by using the built-in statistical and mathematical tools of Excel. The results of the analysis are presented in tables and charts.

## RESULTS

The group of the alternative products – also called as "not highlighted" products – includes a wide variety of agricultural products. These products can be divided into two further parts. The first group contains products which are secondary products of other, "highlighted" commodities. For example the goose-liver – which is a special Hungarian product, a "Hungaricum" - and the feather belong to this group. In many instances the revenue from the export of these "by-products" reaches the level of the income of main product. These products should be treated separately from the other unconventional products, because their production highly depends on the production level of the main products. If the marketing opportunities of the main products are narrowing, the produced amount of secondary products will decline. Due to this fact the exported amount of by-products and – together with it - the export income will also decrease.

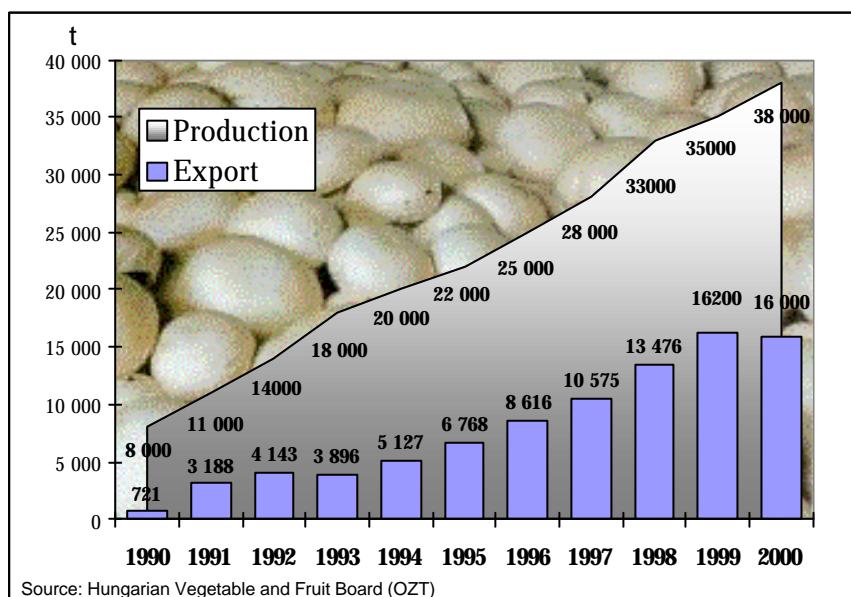
The second group is a group of unconventional products, which are not secondary products. The most of them can be produced even in small-scales and has a high labour requirement, so they could provide income and employment on many small farms. Alternative enterprises are ideal complimentary enterprises, where there is an excess labour. Depending on the scale of the operation, they can constitute one's full-time occupation or serve as a source of part time employment. Since there are several alternative agricultural products on the market and it is impossible to study all of them, I would like to deal with only one agricultural enterprise in this paper, namely mushroom production. I selected this product because it could play an important role in the Hungarian agriculture in the future.

The Hungarian mushroom industry has a 150 years

long history. The first written publications on successful mushroom growing in cellars appeared in as early as 1858, but the market scale production started only in the 1920's. At that time Hungarian mushroom researchers became world-famous by developing the technology of mushroom spawn production. Thanks to their work the Hungarian mushroom production was the third largest in the world in the 1940's [4].

The Hungarian mushroom production – similarly to the whole Hungarian agriculture – experienced significant changes in its ownership and production structure in the last decade. But – in spite of difficulties – this sector has witnessed a remarkable expansion: it increased its production fourfold in less than ten years (Figure 1.). In 2000 we produced 38000 tons of mushroom.

Figure 1.: The Hungarian mushroom production and export between 1990-2000



The 65 per cent of the total Hungarian mushroom production are grown in plastic bags in cellars and former mineshafts. The main problem of this production system is that the air-conditioning is difficult. The high temperature in the hot summers can result in a significant loss in the yield and the income. In the latter times special mushroom growing houses and tunnels become more and more

widespread and popular among the Hungarian mushroom producers. These special houses make the mushroom production easier and more profitable.

Presently 40 companies and more than 1500 growers work in the sector, which so can offer a living for almost 12000 persons. This large-scale development is mainly owing to the good marketing possibilities

and the significant investments made in the raw material production. Thanks to this latter fact the Hungarian compost production reached the world standard. In addition two factories are capable to produce III. phase compost, which could be the base of the further expansion.

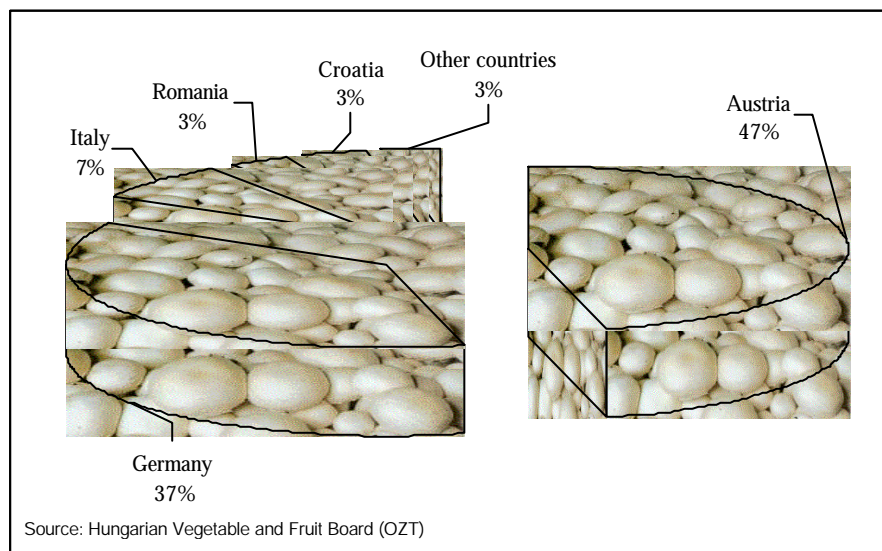
The revenue from the export of fresh and processed mushroom also shows an upward tendency: in 1999 the income was 30 million USD [1], which means a growth of five times in order of magnitude compared to the income in 1991. This 30 million USD is more than 20% of the whole Hungarian vegetable export. This fact proves the viability of this sector. The Hungarian mushroom production become increasingly export-orientated, since year by year higher and higher proportion of the grown mushroom goes for export. Presently 45% of the mushroom is exported (in 1996 it was only 30%).

The main export-product of this sector is a grown mushroom. Champignon constitutes the highest part (85-90 %) of it. The remaining 10% consist of shiitake, oyster- and other mushrooms. As a canned mushroom we can offer almost exclusively processed

champignon [5]. Our main market is the European Union and within it Austria and Germany (Figure 2.). The incomes from these two countries constitute the majority (almost 90%) of the whole returns from the Hungarian mushroom export.

The main competitors on the markets of the European Union are Holland, Ireland and - from among the former communist countries - Poland. But while in Holland and Ireland the mushroom production plays an important role in the agricultural strategy, in our country it does not get suitable support even among the horticultural sector. The custom contingents concerning mushroom export make more difficult the marketing of the Hungarian mushroom, because of they has not changed since the extension of the European Union. This fact – due to the EU accession of Austria – was a hard hit for the Hungarian mushroom dealers, since they had to export their products after exploiting the contingent with a high, 14,9% customs instead of the preferential 3% customs. This high customs level made worse their bargain positions and has led to lower incomes.

Figure 2.: The main export markets of the Hungarian mushroom



The mushroom production could play a more important role in the Hungarian agriculture after the expected EU accession of Hungary. A good example for this is Ireland, which is similar to Hungary in

many respects. After joining the EU we could - similarly to Ireland - enjoy the benefits of the decreasing trade restrictions and the increasing amount of EU grants. Therefore it is worth to

compare the main attributes of the Irish and the Hungarian mushroom industry.

The Irish mushroom industry has expanded steadily after the EU accession and there are now approximately 600 growers throughout the country. The mushroom production increased from the level of 7000 tons per annum (in 1980) to the level of 50000 tons per annum in 1994 [2]. The home market consumes 25-30% of output. The 70% of the produced mushroom are exported, primarily to the UK. Ireland supplies approximately 34000 tons of mushroom per annum to the UK, which constitute 20% of the market. A reputation for quality, consistency and timely delivery has been gained there, mainly through the central marketing structures. The Irish mushroom industry is based on a satellite grower system, whereby growers are linked into central compost companies, which supply spawned compost. These companies then collect, grade and market the finished product. The industry

is made up mainly of family managed unit consisting of 3, 4 or 5 polythene tunnels. Over 70% of growers have contracts with central marketing groups [3].

The satellite system becomes more and more widespread also in the Hungarian mushroom industry. The main reason of it that the internationally competitive and effective mushroom production needs a high level of integration.

The main advantage of Irish producers as opposed to Hungarian mushroom growers that there is no custom for their products, so they can reach higher incomes. But they have disadvantages, too. Since the mushroom production has a high labour requirement, the cost of hired labour greatly determines the margin. In Ireland these cost constitute 40% of the total costs (See Table 1.). This rate in Hungary only 25%, due to the low wage-level. If - after the EU accession - we could reach similar high prices as the Irish mushroom growers, the margins would raise significantly.

Table 1.: Returns from mushroom production per tonne compost with a yield of 220 kg /tonne compost (data shown in Euro)

	<b>Hungary</b>	<b>Ireland</b>
<b>Compost</b>	92	118
<b>Casing</b>	12	11
<b>Heat, power, light</b>	10	17
<b>Chemicals</b>	6	4
<b>Miscellaneous</b>	8	2
<b>Labour</b>	13	40
<b>Picking</b>	30	61
<b>Total costs</b>	<b>169</b>	<b>254</b>
<b>Income</b>	203	363
<b>Margin over materials and paid labour:</b>	34	109

The other way to increase incomes is the extended use of III. phase compost. This decreases the growing period and boosts the yield. But III. phase compost requires a high level technical background (special mushroom houses), which is very expensive. Since the most of the mushroom growers has not enough capital for this, it is necessary to offer them long term bank loans with better conditions for building modern mushroom tunnels.

The Irish experiences show that producers need a high degree of technical competence to grow high

quality disease and pest-free mushrooms in sufficient quantities to be economically viable. For this they need a high level of technical advice, what they can get from TEAGASC. There is no similar group in Hungary, so there is a strong need for developing a modern advisor system.

## DISCUSSION

As we could see the Hungarian mushroom industry presented a remarkable development in the last

decade. It increased its production fourfold in less than ten years to the extent of 38000 tons per year in 2000.

The revenue from the export of fresh and processed mushroom also shows an upward tendency: in 1999 the income was 30 million USD, which means a growth of five times in order of magnitude compared to the income in 1991.

This tendency could continue after the EU accession of Hungary, but – according to the Irish experiences - the future EU grant aid is not enough for the developing of mushroom industry. There are several other important things to do.

For example there is a strong need for developing a modern advisor system to give mushroom growers all the important information.

The 65 per cent of the total Hungarian mushroom production are grown in plastic bags in cellars and former mineshafts. This way of mushroom growing is not suitable for the large scale mushroom production with III. phase compost. It requires special (and expensive) mushroom houses. Therefore it is also necessary to offer the mushroom growers long term bank loans with better conditions to develop their activities.

It is possible to conclude that mushroom production could be a good way of increasing the Hungarian agriculture export, if mushroom growers get the governmental support they need.

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